

# SMP/E Intermediate Topics for Beginning and Experienced Sysprogs



Session 22297

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# Abstract

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Do you have to upgrade your system to support new hardware or software features? Do you have to create usermods or update existing usermods to support new maintenance? Do you need a strategy for backing up your SMP/E environment?

If you answered 'YES' to any of these questions, then this session is for you! The instructor has decades of experience working with SMP/E and will explain the following topics and more:

- Using FIXCATs to ensure all requisite maintenance applied for new hardware or software feature
- How to construct usermods from scratch or update existing usermods for new maintenance
- Using a backup strategy for your SMP/E environment that will allow you to recover even after ACCEPT to a previous maintenance level and more!



# SMP/E Version 3 Publications Family

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- Knowledge Center

[https://www.ibm.com/support/knowledgecenter/en/SSLTBW\\_2.3.0/com.ibm.zos.v2r3.gim/gim.htm](https://www.ibm.com/support/knowledgecenter/en/SSLTBW_2.3.0/com.ibm.zos.v2r3.gim/gim.htm)

- SA23-2275-30 – SMP/E for z/OS Commands
- GA32-0883-30 – SMP/E for z/OS Messages, Codes, and Diagnosis
- SA23-2276-30 – SMP/E for z/OS Reference
- SA23-2277-30 – SMP/E for z/OS User's Guide (a primer)
- Useful: Software Delivery, Standard Packaging Rules for z/OS-Based Products, SC23-3695-10: <https://www-05.ibm.com/e-business/linkweb/publications/servlet/pbi.wss?CTY=US&FNC=SRX&PBL=SC23-3695-10>



# Agenda

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- Enhanced HOLDDATA
- REPORT ERRSYSMODS
- FIXCATs - Best Enhancement EVER!
- FIXCAT Explorer
- REPORT MISSINGFIX
- Problem - Mischaracterized HOLDDATA
- Problem - Incorrect Packaging MODID Errors
- USERMODs
- Backing Up Your SMP/E Environment
- Finally

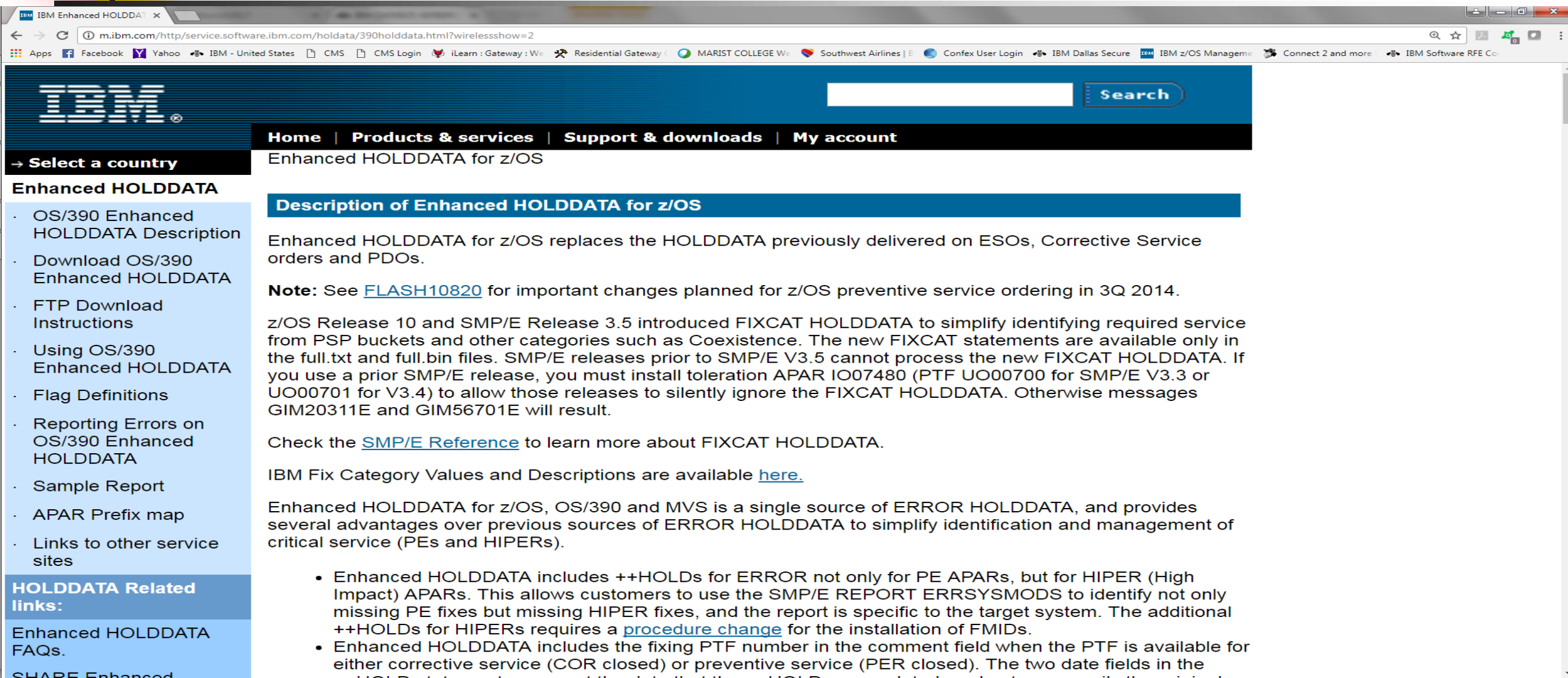


# Enhanced HOLDDATA

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- Enhanced HOLDDATA notifies SMP/E users of PTFs in Error (PEs), High Impact PERvasive APARs (HIPERs), as well as FIX CATegory (FIXCAT) holds for IBM maintenance.
- [Enhanced HOLDDATA Home Page](#)
- You want to download the Full.bin
  - Two years of HOLDDATA, updated daily!
  - It's the only download that includes FIXCAT (more FIXCAT later).
  - Recommendation: Download prior to an APPLY/ACCEPT operation.
  - Recommendation: If you use RECEIVE ORDER, you get full.bin by default.
  - Do not download plain text files (avoids ASCII-to-EBCDIC translation errors).

# Enhanced HOLDDATA



IBM Enhanced HOLDDATA

m.ibm.com/http.service.software.ibm.com/holddata/390holddata.html?wirelessshow=2

Apps Facebook Yahoo IBM - United States CMS CMS Login iLearn : Gateway : We Residential Gateway MARIST COLLEGE W Southwest Airlines Confex User Login IBM Dallas Secure IBM z/OS Manage Connect 2 and more IBM Software RFE Co

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Enhanced HOLDDATA for z/OS

→ Select a country

## Enhanced HOLDDATA

- OS/390 Enhanced HOLDDATA Description
- Download OS/390 Enhanced HOLDDATA
- FTP Download Instructions
- Using OS/390 Enhanced HOLDDATA
- Flag Definitions
- Reporting Errors on OS/390 Enhanced HOLDDATA
- Sample Report
- APAR Prefix map
- Links to other service sites

### HOLDDATA Related links:

- Enhanced HOLDDATA FAQs.
- SHAPE Enhanced

## Description of Enhanced HOLDDATA for z/OS

Enhanced HOLDDATA for z/OS replaces the HOLDDATA previously delivered on ESOs, Corrective Service orders and PDOs.

**Note:** See [FLASH10820](#) for important changes planned for z/OS preventive service ordering in 3Q 2014.

z/OS Release 10 and SMP/E Release 3.5 introduced FIXCAT HOLDDATA to simplify identifying required service from PSP buckets and other categories such as Coexistence. The new FIXCAT statements are available only in the full.txt and full.bin files. SMP/E releases prior to SMP/E V3.5 cannot process the new FIXCAT HOLDDATA. If you use a prior SMP/E release, you must install toleration APAR IO07480 (PTF UO00700 for SMP/E V3.3 or UO00701 for V3.4) to allow those releases to silently ignore the FIXCAT HOLDDATA. Otherwise messages GIM20311E and GIM56701E will result.

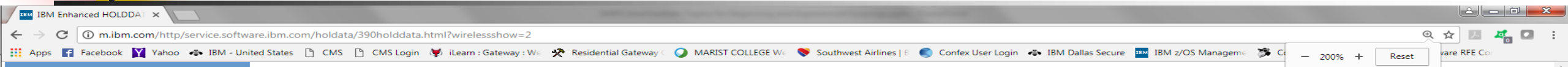
Check the [SMP/E Reference](#) to learn more about FIXCAT HOLDDATA.

IBM Fix Category Values and Descriptions are available [here](#).

Enhanced HOLDDATA for z/OS, OS/390 and MVS is a single source of ERROR HOLDDATA, and provides several advantages over previous sources of ERROR HOLDDATA to simplify identification and management of critical service (PEs and HIPERs).

- Enhanced HOLDDATA includes ++HOLDS for ERROR not only for PE APARs, but for HIPER (High Impact) APARs. This allows customers to use the SMP/E REPORT ERRSYSMODS to identify not only missing PE fixes but missing HIPER fixes, and the report is specific to the target system. The additional ++HOLDS for HIPERs requires a [procedure change](#) for the installation of FMIDs.
- Enhanced HOLDDATA includes the fixing PTF number in the comment field when the PTF is available for either corrective service (COR closed) or preventive service (PER closed). The two date fields in the

# Enhanced HOLDDATA



To download the Packed data files with a web browser:

- Click on the name in the Download Now column, the data will be downloaded to your workstation. Most browsers will use a cached copy of previously displayed pages, so you may need to use the reload/refresh button of the browser to retrieve the latest copy from the server.
- Use "file/save-as" to save the data to the specified file on the workstation. (This command will vary depending upon the web browser you are using).
- Upload to the z/OS or OS/390 Host system as binary data using any file transfer facility. Note that the resultant dataset on the Host must be RECFM=FB LRECL=1024.
- Use AMATERSE or [TRSMAN](#) to unpack the packed file into a dataset. [Click here](#) for information on how to install and use TRSMAN.

Name	Time Span	Plain Text		Packed Data		FIXCATs Included
		Size	Download NOW	Size	Download NOW	
Month	Last 30 days	~ 100 Kb	<a href="#">Month</a>	~ 24 Kb	<a href="#">Month.bin</a>	No
Quarter	Last 90 days	~ 300 Kb	<a href="#">Quarter</a>	~ 47 Kb	<a href="#">Quarter.bin</a>	No
Year	Last 365 days	~1200 Kb	<a href="#">Year</a>	~ 200 Kb	<a href="#">Year.bin</a>	No
Full	Last 730 days	~2250 Kb	<a href="#">Full</a>	~ 400 Kb	<a href="#">Full.bin</a>	YES
YRS3	Last 3 years	n/a *	n/a *	~600 Kb	<a href="#">YRS3.bin</a>	No

\* The 3 year file is only available in compressed (TRSMAN) format.

**Note:** SMP/E requires the dataset containing HOLDDATA to be recfm=FB and lrecl=80. FTP and emulator program uploads will usually default to a dataset with a format of VB. Pre-allocate the dataset prior to running Batch FTP or uploading to the OS/390 host or specify parameters that will create a FB-80 dataset.

[Table of Contents](#)

## FTP Download Instructions

FTP may be used to download Enhanced HOLDDATA. Request and receipt of Enhanced HOLDDATA can be automated if FTP capability is in place on the z/OS host system.





# REPORT ERRSYSMODS: Batch Invocation JCL

- REPORT ERRSYSMODS JCL to show all missing PEs and HIPERs:

```
//IBMUSERD JOB 'IBMUSER',CLASS=A,NOTIFY=&SYSUID,  
//          MSGCLASS=X,REGION=0M,MSGLEVEL=(1,1)  
//S1       EXEC PGM=GIMSMP,PARM='PROCESS=WAIT',DYNAMNBR=120  
//SMPCSI   DD DISP=SHR,DSN=MVS.GLOBAL.CSI  
//SMPCNTL  DD *  
    REPORT  
        ERRSYSMODS  
        ZONES (  
            MVST  
        )  
        .  
/*  
//
```



# REPORT ERRSYSMODS Output

- REPORT ERRSYSMODS output:

PAGE 0001 - NOW SET TO GLOBAL ZONE                      DATE 10/01/17    TIME 01:23:19    SMP/E 36.77    SMPRPT    OUTPUT

EXCEPTION SYSMOD REPORT FOR ZONE MVST

HOLD FMID	SYSMOD NAME	APAR NUMBER	---RESOLVING SYSMOD----			HOLD CLASS	HOLD SYMPTOMS
			NAME	STATUS	RECEIVED		
-----							
EDU1H01	UI33409	AI78800	UI46369	GOOD	NO	PE	
HBB77A0	HBB77A0	AA49506	UA92245	GOOD	NO	HIPER	DAL, FUL, PRV
		AA49561	UA82760	GOOD	NO	HIPER	FUL, SYSPLXDS
<snip>							
		AA52531	***NONE			HIPER	FUL
		AA52618	UA92282	GOOD	NO	HIPER	FUL, SYSPLXDS
		AA52676	***NONE			HIPER	FUL
<snip>							
	UA81297	AA50970	UA83064	<u>HELD</u>	NO	PE	
		AA52075	UA91125	<u>HELD</u>	NO	PE	
		AA53290	UA92948	GOOD	NO	PE	
<snip>							

# REPORT ERRSYSMODS with Statistics

- REPORT ERRSYSMODS output with statistics:

PAGE 0007 - NOW SET TO GLOBAL ZONE  
OUTPUT

DATE 10/01/17 TIME 01:23:19 SMP/E 36.77 SMPRPT

## EXCEPTION SYSMOD REPORT SUMMARY

ZONE	FMID	TOTAL APARS AGAINST FMID	TOTAL RESOLVING SYSMODS AGAINST FMID
MVST	EDU1H01	1	1
	HBB77A0	87	82
	HBKQ400	1	1
	HCPT420	3	3
	HCR77B0	5	5
	HDZ222N	10	8
	HDZ2220	87	81
	HIF7P02	1	1
	HIP6220	21	20



# REPORT ERRSYSMODS with RECEIVE Stmts.

---

- REPORT ERRSYSMODS output with generated RECEIVE statements:

```
SET BDY (GLOBAL ). /* REMOVE COMMENT IF DOING RECEIVE
RECEIVE  SELECT (
          UI46369
          UA92245
          UA82760
          UA82567
          UA82632
          UA82532
          UA82533
          UA83237
          UA82427
          UA82551
          UA82386
          <snip>
          UA83987
          UI50502
        )
        SYSMODS.
          REMOVE COMMENT IF DOING RECEIVE */
```

# REPORT ERRSYSMODS Generated APPLY Stmts.

- REPORT ERRSYSMODS output with generated APPLY statements:

```
RESETRC.
SET BDY (MVST  ) .
APPLY      SELECT (
/* UI46369      RESOLVES AI78800 FOR UI33409 FMID (EDU1H01) */
/* UA92245      RESOLVES AA49506 FOR HBB77A0 FMID (HBB77A0) */
/* UA82760      RESOLVES AA49561 FOR HBB77A0 FMID (HBB77A0) */
/* UA82567      RESOLVES AA49822 FOR HBB77A0 FMID (HBB77A0) */
/* UA82632      RESOLVES AA50084 FOR HBB77A0 FMID (HBB77A0) */
/* UA82532      RESOLVES AA50162 FOR HBB77A0 FMID (HBB77A0) */
/* UA82533      RESOLVES AA50218 FOR HBB77A0 FMID (HBB77A0) */
/* UA83237      RESOLVES AA50341 FOR HBB77A0 FMID (HBB77A0) */
<snip>
/* UA83348      RESOLVES IA51541 FOR UA82284 FMID (HJE77A0) */
/* UA83802      RESOLVES AA51980 FOR UA83247 FMID (HZFS420) */
/* UA83802      RESOLVES AA51980 FOR UA83412 FMID (HZFS420) */
/* UA83802      RESOLVES AA51980 FOR UA83571 FMID (HZFS420) */
)
GROUP CHECK
BYPASS (HOLDSYSTEM) .
```



# REPORT ERRSYSMODS

---

- Best result from REPORT ERRSYSMODS:

PAGE 0001 - NOW SET TO GLOBAL ZONE      DATE 10/01/17    TIME 01:00:10    SMP/E 36.77    SMPRPT    OUTPUT

EXCEPTION SYSMOD REPORT FOR ZONE MVST

HOLD	SYSMOD	APAR	---RESOLVING SYSMOD----	HOLD	HOLD
FMID	NAME	NUMBER	NAME    STATUS RECEIVED	CLASS	SYMPTOMS



# FIXCATs – The Best Enhancement EVER!

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- Preventive Service Planning (PSP) correlated required service for operating system, program products, and hardware
  - Lists of APARs and PTFs which were manually verified by sysprog
  - Extremely time-consuming and error-prone
- PSP buckets were replaced by FIXCATs: **Fix Categories**
  - Greatest service enhancement EVER!
  - Required service, toleration, hardware microcode, etc. all in one place.
  - Fully integrated into SMP/E.
  - Automated method to ensure required maintenance applied to system
- Many Independent Software Vendors (ISVs) take advantage of this feature to create their own FIXCATs.



# FIXCATs – The Best Enhancement EVER!

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- [Complete list of IBM FIXCATs here.](#)
- [Complete list of CA Technologies FIXCATs here.](#)
- Other ISVs FIXCATs may be located on their Tech Support websites.





# FIXCAT Explorer - How to Access and Use

---

- FIXCAT Explorer within SMP/E is the best tool for working with FIXCATs.
- FIXCAT Explorer is accessed via SMP/E ISPF Dialog option 4 (Command Generation).
- Select option 34 REPORT from Command Generation Selection Menu.
- Select 5 for REPORT MISSINGFIX.
- Enter YES next to FIXCAT to specify FIXCATs.
- Enter YES for FIXCAT Explorer on REPORT FIXCAT Panel.

# FIXCAT Explorer – Screen Capture 1

```
zPDT
File Edit Font Transfer Macro Options Window Help

----- SMP/E PRIMARY OPTION MENU ----- SMP/E 36.77
===> 4

More: +

0 SETTINGS - Configure settings for the SMP/E dialogs
1 ADMINISTRATION - Administer the SMP/CSI contents
2 SYSMOD MANAGEMENT - Receive SYSMODs and HOLDDATA
and install SYSMODs
3 QUERY - Display SMP/CSI information
4 COMMAND GENERATION - Generate SMP/E commands
5 RECEIVE - Receive SYSMODs, HOLDDATA and
support information
6 MIGRATION ASSISTANT- Generate Planning and Migration Reports
7 ORDER MANAGEMENT - Manage ORDER entries in the global zone

D DESCRIBE - An overview of the dialogs
T TUTORIAL - Details on using the dialogs
W WHAT IS NEW - What is New in SMP/E

Specify the name of the CSI that contains the global zone:
SMP/CSI DATA SET ===> 'MVS.GLOBAL.CSI'
(Leave blank for a list of SMP/CSI data set names.)

Specify YES to have DD statements for SYSOUT and temporary
```

MA 0.6 a 2,8

# FIXCAT Explorer – Screen Capture 2

```
zPDT
File Edit Font Transfer Macro Options Window Help

COMMAND GENERATION SELECTION MENU

===> 34

Select one of the following:
10 RECEIVE      20 RESETRC      30 LIST BACKUP   40 ZONECOPY
11 APPLY        21 JCLIN         31 LIST LOG      41 ZONEEDIT
12 ACCEPT       22 UCLIN         32 LIST          42 ZONEDELETE
13 REJECT       23 CLEANUP      33 UNLOAD        43 ZONEEXPORT
14 RESTORE      24 GENERATE      34 REPORT        44 ZONEIMPORT
15 LINK         25 LOG          35 BUILD MCS     45 ZONEMERGE
                26 UPGRADE                46 ZONERENAME
                                   47 GZONEMERGE

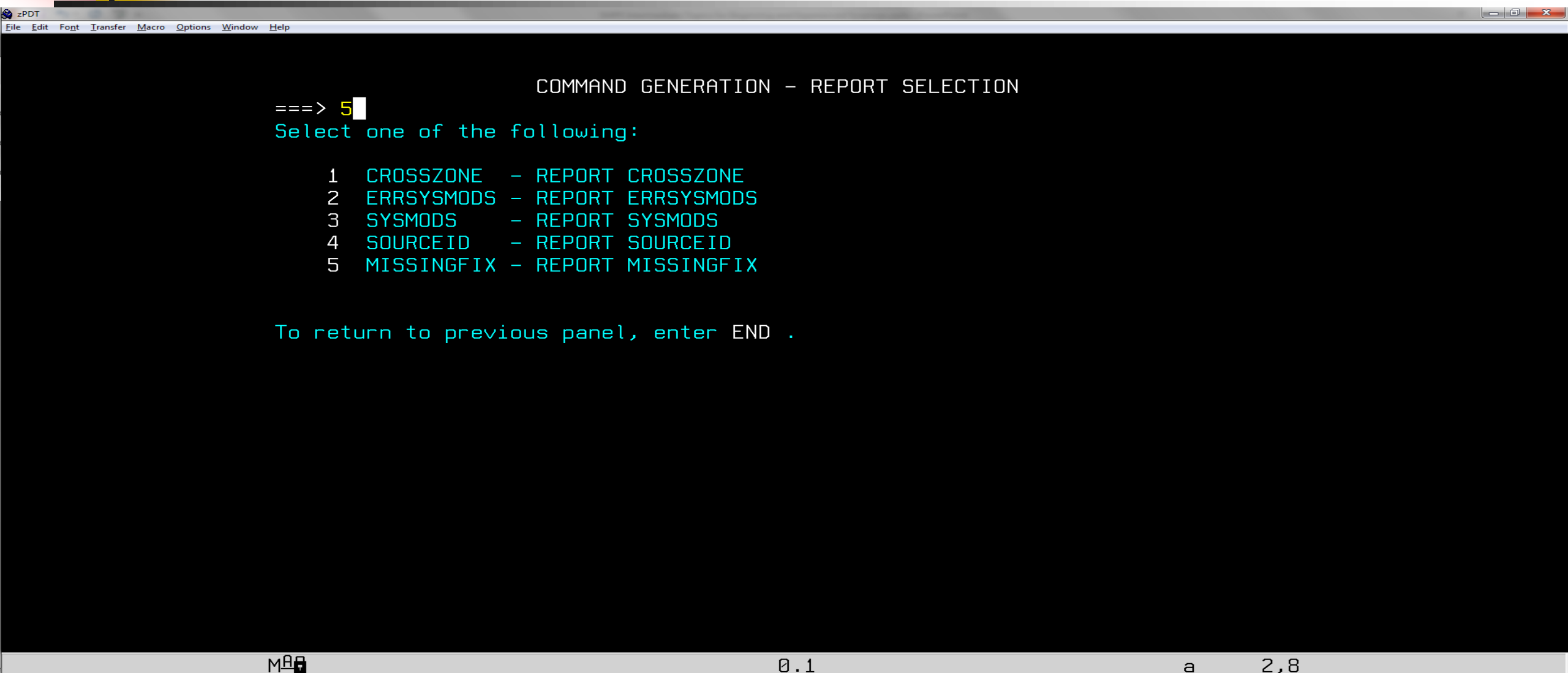
Enter or verify the following:
ZONE NAME          ===> (required)
OPTIONS NAME       ===> OPTIONS name or
                    blank
SMP/E PROCESS PARAMETER ===> WAIT WAIT or END

To return to the SMP/E primary option menu enter the END command

5694-A01 5655-G44 COPYRIGHT IBM CORP 1982, 2011

M 2.3 a 2,9
```

# FIXCAT Explorer – Screen Capture 3



A screenshot of a terminal window titled 'zPDT'. The window has a menu bar with 'File', 'Edit', 'Font', 'Transfer', 'Macro', 'Options', 'Window', and 'Help'. The main display area is black with white and cyan text. At the top, it says 'COMMAND GENERATION - REPORT SELECTION'. Below that, it shows '===> 5' with a cursor. Then it says 'Select one of the following:'. A list of five options follows, each with a number and a description. At the bottom, it says 'To return to previous panel, enter END .'.

```
zPDT
File Edit Font Transfer Macro Options Window Help

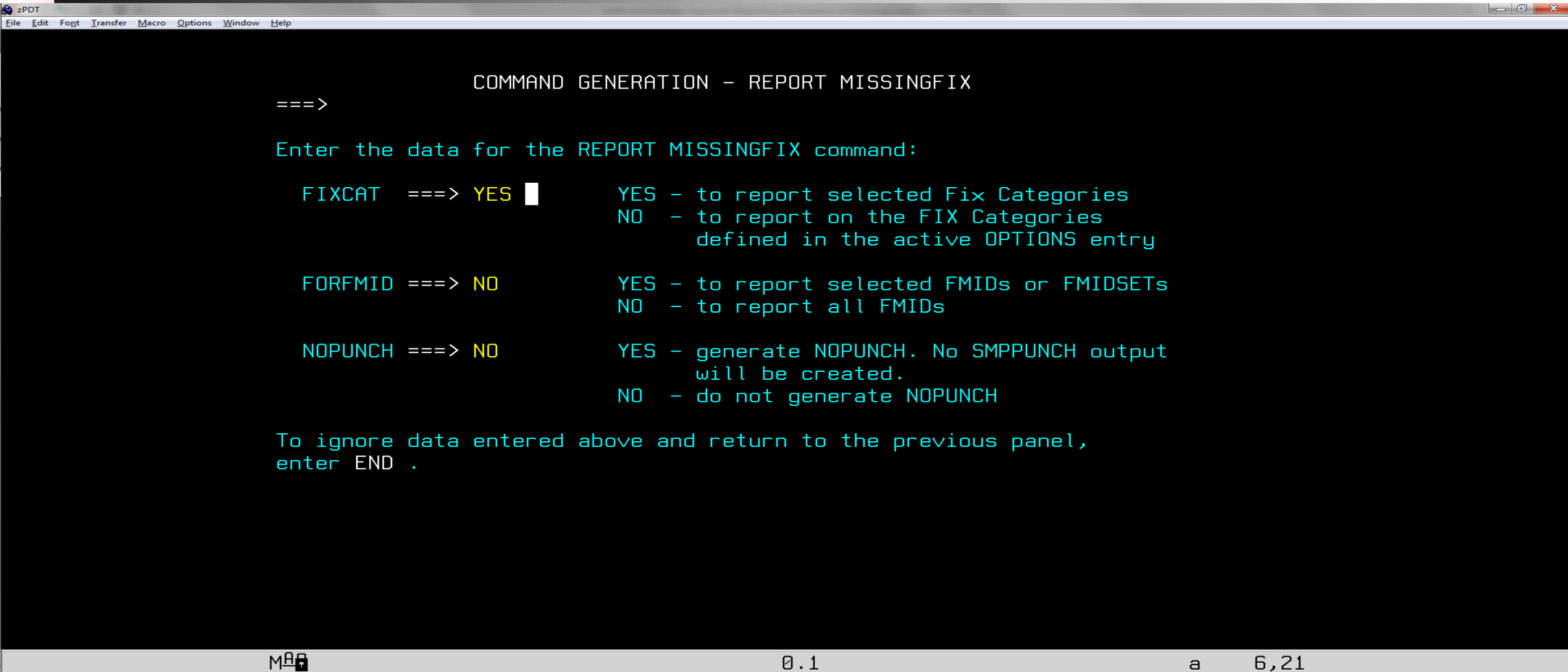
COMMAND GENERATION - REPORT SELECTION

===> 5
Select one of the following:

1 CROSSZONE - REPORT CROSSZONE
2 ERRSYSMODS - REPORT ERRSYSMODS
3 SYSMODS - REPORT SYSMODS
4 SOURCEID - REPORT SOURCEID
5 MISSINGFIX - REPORT MISSINGFIX

To return to previous panel, enter END .
```

# FIXCAT Explorer – Screen Capture 4



The image shows a screenshot of a zPDT window titled "zPDT". The window has a menu bar with "File", "Edit", "Font", "Transfer", "Macro", "Options", "Window", and "Help". The main content area displays a screen capture of the "COMMAND GENERATION - REPORT MISSINGFIX" command. The text is as follows:

```
====>

Enter the data for the REPORT MISSINGFIX command:

FIXCAT  ===> YES  YES - to report selected Fix Categories
              NO  - to report on the FIX Categories
                  defined in the active OPTIONS entry

FORFMID  ===> NO   YES - to report selected FMIDs or FMIDSETs
              NO  - to report all FMIDs

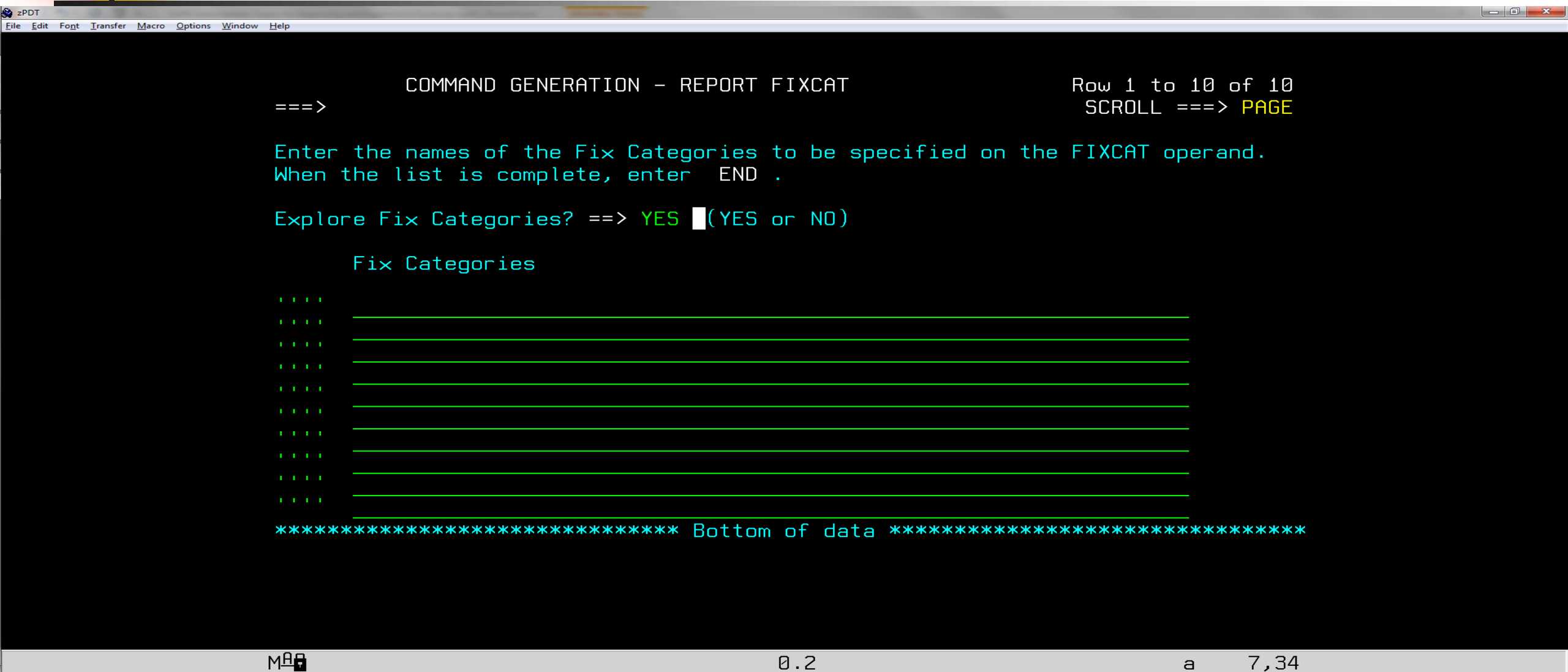
NOPUNCH  ===> NO   YES - generate NOPUNCH. No SMPPUNCH output
                  will be created.
              NO  - do not generate NOPUNCH

To ignore data entered above and return to the previous panel,
enter END .
```

At the bottom of the window, there is a status bar with the following information:

- MB
- 0.1
- a
- 6,21

# FIXCAT Explorer – Screen Capture 5



# FIXCAT Explorer – Screen Capture 6

```
zPDT
File Edit Font Transfer Macro Options Window Help

----- Fix Category Explorer ----- Row 1 to 7 of 7
===> ☐ SCROLL ===> PAGE

Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all
Actions: E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns

Fix Categories Selected
-----
-IBM.*
+IBM.Coexistence.*
+IBM.Device.*
+IBM.Function.*
+IBM.MQ.*
IBM.ProductInstall-RequiredService
+IBM.TargetSystem-RequiredService.*
***** Bottom of data *****

MBA 0.1 a 2,7
```



# FIXCAT Explorer – Primary and Line Commands

---

- From FIXCAT Explorer, you have primary commands:
  - FIND - Find a string (will only find on displayed panel, will not EXPAND)
  - E - Expand All
  - C - Collapse All
  - U - Unselect All
- Following line commands available for each FIXCAT entry:
  - E - Expand
  - C - Collapse
  - S - Select
  - U - Unselect
  - V - View Patterns (IMHO, not really useful)



# FIXCAT Explorer – Screen Capture 7

```
zPDT
File Edit Font Transfer Macro Options Window Help

----- Fix Category Explorer ----- Row 1 to 7 of 7
==> e SCROLL ==> PAGE

Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all
Actions:  E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns

Fix Categories                                     Selected
-----
-IBM.*
+IBM.Coexistence.*
+IBM.Device.*
+IBM.Function.*
+IBM.MQ.*
  IBM.ProductInstall-RequiredService
+IBM.TargetSystem-RequiredService.*
***** Bottom of data *****

MBA 1.4 a 2,8
```

# FIXCAT Explorer – Screen Capture 8

```
zPDT
File Edit Font Transfer Macro Options Window Help

----- Fix Category Explorer ----- Row 1 to 15 of 166
===> ☐ SCROLL ==> PAGE

Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all
Actions: E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns

Fix Categories                                     Selected
-----
-IBM.*
-IBM.Coexistence.*
-IBM.Coexistence.ICSF.*
  IBM.Coexistence.ICSF.z/OS_V1R13-V2R2-HCR77B1
  IBM.Coexistence.ICSF.z/OS_V2R1-V2R2-HCR77C0
  IBM.Coexistence.ICSF.z/OS_V2R1-V2R3-HCR77C1
-IBM.Coexistence.MQ.*
  IBM.Coexistence.MQ.V7R1M0
  IBM.Coexistence.MQ.V8R0M0
  IBM.Coexistence.MQ.V9R0M0
-IBM.Coexistence.z/OS.*
  IBM.Coexistence.z/OS.V2R1
  IBM.Coexistence.z/OS.V2R2
  IBM.Coexistence.z/OS.V2R3
-IBM.Coexistence.z/OSMF.*
```

MR 0.1 a 2,7

# FIXCAT Explorer – Screen Capture 9

```
zPDT
File Edit Font Transfer Macro Options Window Help

----- Fix Category Explorer ----- Row 1 to 7 of 7
===>                                SCROLL ==> PAGE

Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all
Actions:  E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns

  Fix Categories                               Selected
  -----
s ☒ IBM.*
    +IBM.Coexistence.*
    +IBM.Device.*
    +IBM.Function.*
    +IBM.MQ.*
    IBM.ProductInstall-RequiredService
    +IBM.TargetSystem-RequiredService.*
***** Bottom of data *****

MBA 1.3 a 10,4
```

# FIXCAT Explorer – Screen Capture 10

```
zPDT
File Edit Font Transfer Macro Options Window Help

----- Fix Category Explorer ----- Row 1 to 7 of 7
===> ☐ SCROLL ===> PAGE

Commands: FIND -Find a string, E -Expand all, C -Collapse all, U -Unselect all
Actions: E -Expand, C -Collapse, S -Select, U -Unselect, V -View patterns

Fix Categories                                     Selected
-----
-IBM.*                                           SELECTED
+IBM.Coexistence.*                               *
+IBM.Device.*                                   *
+IBM.Function.*                                 *
+IBM.MQ.*                                       *
  IBM.ProductInstall-RequiredService           *
+IBM.TargetSystem-RequiredService.*             *
***** Bottom of data *****

MBA 0.2 a 2,7
```



# REPORT MISSINGFIX Sample Batch JCL

REPORT MISSINGFIX JCL to show all missing IBM FIXCATs:

```
//IBMUSERD JOB 'IBMUSER',CLASS=A,NOTIFY=&SYSUID,  
//          MSGCLASS=X,REGION=0M,MSGLEVEL=(1,1)  
//S1       EXEC PGM=GIMSMP,PARM='PROCESS=WAIT',DYNAMNBR=120  
//SMPCSI   DD DISP=SHR,DSN=MVS.GLOBAL.CSI  
//SMPCNTL  DD *  
    SET     BOUNDARY (GLOBAL) .  
    REPORT  
           MISSINGFIX  
           ZONES (MVST)  
           FIXCAT (IBM.*).  
  
/*  
//
```

# REPORT MISSINGFIX: Output

## REPORT MISSINGFIX output

PAGE 0001 - NOW SET TO GLOBAL ZONE  
OUTPUT

DATE 10/01/17 TIME 00:34:29 SMP/E 36.77 SMPRPT

MISSING FIXCAT SYSMOD REPORT FOR ZONE MVST

FIX CATEGORY	FMID	HOLD CLASS	MISSING APAR	HELD SYSMOD	RESOLVING SYSMOD NAME	STATUS	RECEIVED
<u>IBM.Function.Multi-FactorAuthentication</u>							
	<u>HRF77A0</u>		<u>AA50016</u>	<u>HRF77A0</u>	<u>UA81904</u>	<u>HELD</u>	<u>YES</u>

PAGE 0002 - NOW SET TO GLOBAL ZONE  
OUTPUT

DATE 10/01/17 TIME 00:34:29 SMP/E 36.77 SMPRPT

MISSING FIXCAT SYSMOD REPORT FOR ZONE MVST - FIXES FOR HELD RESOLVING SYSMODS

HOLD FMID	HELD SYSMOD	APAR	RESOLVING SYSMOD NAME	STATUS	RECEIVED	HOLD CLASS
<u>HRF77A0</u>	<u>UA81904</u>	<u>AA50825</u>	<u>***NONE</u>			<u>PE</u>



# REPORT MISSINGFIX Best Possible Output

The best result from REPORT MISSINGFIX:

PAGE 0001 - NOW SET TO GLOBAL ZONE  
SMPRPT OUTPUT

DATE 10/01/17 TIME 17:48:32 SMP/E 36.77

MISSING FIXCAT SYSMOD REPORT FOR ZONE MVST

FIX CATEGORY	FMID	HOLD CLASS	MISSING APAR	HELD SYSMOD	RESOLVING SYSMOD		
					NAME	STATUS	RECEIVED
<u>***NONE</u>							



# APPLY FIXCATs APPLY Control Statements

---

- To APPLY FIXCATs, specify FIXCAT name in SOURCEID parm.
- Wildcards are allowed.
- Following SMP\_CNTL statements will APPLY CHECK all IBM FIXCATs:

```
APPLY      CHECK
           GROUPEXTEND
           SOURCEID (
                        IBM.*
                    )
           BYPASS    (
                        HOLDSYSTEM
                    )
           NOJCLINREPORT .
```





# APPLY FIXCATs – Gotchas and Best Practices

---

- FIXCAT parameter for APPLY/ACCEPT can be confusing.
- By default, FIXCAT HOLDs are BYPASSed
  - FIXCAT HOLDs are treated differently from other HOLDs
  - Other HOLDs are in effect unless BYPASSed
  - FIXCAT parm on APPLY/ACCEPT enables use of FIXCAT HOLDs
- Due to confusion, I don't recommend using FIXCAT HOLDs on APPLY/ACCEPT.
  - Use FIXCAT identifier in SOURCEID on APPLY/ACCEPT instead.
  - Use output from REPORT MISSINGFIX instead.



# Problem - Mischaracterized HOLDDATA

---

- Do you review ALL HOLDDATA during APPLY/ACCEPT? You should!
- Some sysprogs ignore categories like DOC, IPL, ENH, etc., which creates an unnecessary exposure.
- Lately, I've seen a significant increase in mischaracterized HOLDDATA. For example: DOC is really ACTION, ENH is really EC, etc.
- Here are two recent examples:
  - OA51538 - ENH hold should have been EC.
  - PI28548 - DOC hold should have been ACTION.



# Problem - Mischaracterized HOLDDATA

```
++ HOLD(UA91956) SYS FMID(HDZ2210) REASON(ENH) DATE(17142)
COMMENT
(*****
* FUNCTION AFFECTED: DFSMS                                (OA51538) *
*                               DFSMSdfp                      *
*****
* DESCRIPTION      : Product Enhancement                      *
*                               Exploitation (Timing)          *
*****
* TIMING           : Post-APPLY                              *
*****

This enhancement increases the upper limit on the number of
tracks being read or written at one time during volume
synchronization.  In addition, in order to get the greatest
performance improvements, the following minimum LIC level is
required:
```

**For DS8880 (R8.2) - 88.22.34.0 - R8.2 SP2.1**

Also, having 16Gb host adapters on both the z processor at the DR site and the primary storage controls may provide increased performance.) .



# Problem - Mischaracterized HOLDDATA

```
++ HOLD(UI25311) SYS FMID(HLE7790) REASON(DOC) DATE(16176)
COMMENT
```

(There are new COBOL library modules added by the current PTF. These modules are shipped in the LE SCEERUN dataset. **After you have installed the PTF, the CICS System Definition (CSD) file needs to be updated to include the following new library modules. This applies whether you are running COBOL 5.2 or COBOL 5.1.1 programs.**

```
IGZXLPKB
IGZXLPKD
IGZXLPE
IGZXLPKF
IGZXLPKG
IGZXP2
```

You can update your existing CSD file to include the following **DEFINEs**

```
DEFINE PROGRAM(IGZXLPKB) GROUP(CEE)
DEFINE PROGRAM(IGZXLPKD) GROUP(CEE)
DEFINE PROGRAM(IGZXLPE) GROUP(CEE)
DEFINE PROGRAM(IGZXLPKF) GROUP(CEE)
DEFINE PROGRAM(IGZXLPKG) GROUP(CEE)
DEFINE PROGRAM(IGZXP2) GROUP(CEE)
```

These modules are also eligible for the Link Pack area. Please also refer to the Tech. Note in <http://www.ibm.com/support/docview.wss?uid=swg21697364>).



# Problem - Mischaracterized HOLDDATA

```
++ HOLD(UI49242) SYS FMID(HLE7790) REASON(DOC) DATE(17213)
```

```
COMMENT
```

```
(*****
```

```
* FUNCTION AFFECTED: LANGUAGE ENVIRONMENT (PI84517) *
```

```
* Enterprise COBOL Compiler *
```

```
*****
```

```
* DESCRIPTION : Documentation updates *
```

```
*****
```

```
* TIMING : TIMING : post-Apply *
```

```
*****
```

```
1. Optional Module IGZUOPT
```

The application can now provide an optional module IGZUOPT to control the processing of COBOL CEEDUMP. Refer to the technote below for details about this module:

<http://www-01.ibm.com/support/docview.wss?uid=swg22006359>

Follow the steps below when installing this PTF:

## 1.1 LE APAR

**Install the LE APAR PI75601 to update the CEECCSD sample in the SCEESAMP sample dataset.**



# Problem - Mischaracterized HOLDDATA

```
++ HOLD(UI49242) SYS FMID(HLE7790) REASON(DOC) DATE(17213)
COMMENT
```

## 1.2 CICS

The normal procedure for setting up CICS involves updating the CICS System Definition (CSD) file. This defines the program modules that can be used under CICS. After installing this PTF, add the module name IGZUOPT to the CDS definition by using:

```
DEFINE PROGRAM(IGZUOPT) GROUP(CEE)
```

Or you can use the CEECCSD sample in step 1 to set up the CSD file.

1.3 This module is optional, and is to be provided by the COBOL application, if needed, to control CEEDUMP processing. It is not necessary to put this module into LPA.

## 2. New messages added

New COBOL Runtime messages are added IGZ0319-0330 and IGZ0335-0341.

Refer to the technote below for details about the messages:  
<http://www-01.ibm.com/support/docview.wss?uid=swg22005368>).



# Problem - Mischaracterized HOLDDATA - PMRs

---

- If you discover mischaracterized HOLDDATA, open a PMR.
- IBM Service agrees that mischaracterized HOLDDATA is APAR-able, so don't let Level 2 convince you otherwise.
- If Level 2 won't fix it, escalate your PMR to a duty manager.
- If IBM still refuses, email me and I'll escalate within IBM Service.



# Problem - Incorrect Packaging MODID Errors

---

- While extremely rare, IBM/ISVs can have SMP/E packaging errors: it does happen!
- Example: A MODID error showing affected module and maintenance level

```
GIM38201E ** THERE IS A MODID ERROR FOR MOD ENTRY IBMMODUL IN SYSMOD UA99999.  
GIM31901I      SYSMOD UA99999 DOES NOT SPECIFY UA99998 ON THE PRE OR SUP OPERAND.  
              UA99998 IS THE RMID FOR MOD IBMMODUL THAT IS CURRENTLY INSTALLED.  
GIM22601I      APPLY PROCESSING FAILED FOR SYSMOD UA99999.
```

- If you experience one of these errors, report it to IBM or the ISV immediately.
- I've never had an issue with getting MODID errors addressed.





# USERMODs: Benefits Analysis 1

---

- **USER MOD**ifications (USERMODs) are used to customize IBM or vendor-supplied elements:
  - They package/manage needed capabilities and functions required locally.
  - They are used to correct a bug until IBM or an ISV issues a patching fix.
  - They are a standard means to install a system exit, etc.
  - For example, SMF exit IEFACTRT and ISPF ISR@PRIM are commonly packaged/installed USERMODs.



## USERMODs: Benefits Analysis 2

---

- The primary function for USERMODs is to alert you to IBM maintenance for element(s) that compose your USERMOD, so you can remediate any change(s).
- USERMODs make some sysprogs uneasy, but they are there to help!
- USERMODs ensure that your system is correctly configured and serviced to meet your installation's requirements.

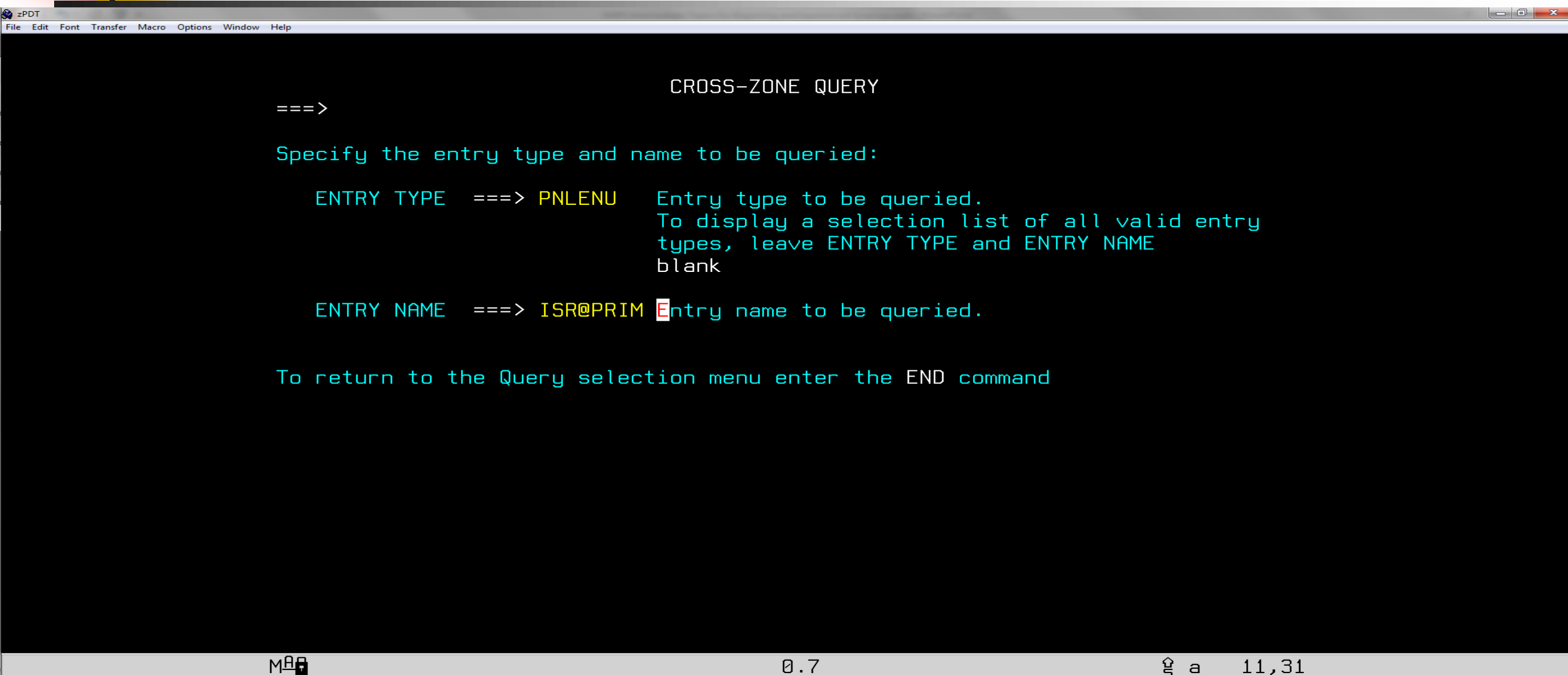


# USERMODs: Getting Start Step 1

---

- USERMODs are often simple - believe it or not!
- Complexity occurs as more elements are added to USERMODs.
- First step in creating USERMOD
  - Determine affected element and its maintenance level
  - Use SMP/E option 3.2 Cross-zone query if you know element name and type
  - Use SMP/E option 3.1 CSI Query if you only know element name
- In the following example, ISR@PRIM menu is at base HIF7P02.

# USERMODs – Screen Capture 1



A screenshot of a zPDT terminal window. The window has a menu bar with 'File', 'Edit', 'Font', 'Transfer', 'Macro', 'Options', 'Window', and 'Help'. The main display area is black with white and yellow text. The text shows a 'CROSS-ZONE QUERY' screen with prompts for 'ENTRY TYPE' and 'ENTRY NAME'. The 'ENTRY TYPE' is set to 'PNLENU' and the 'ENTRY NAME' is set to 'ISR@PRIM'. A red cursor is visible at the end of the 'ENTRY NAME' line. At the bottom of the terminal, there is a status bar with 'MBA' on the left, '0.7' in the center, and 'a 11,31' on the right.

```
zPDT
File Edit Font Transfer Macro Options Window Help

                                CROSS-ZONE QUERY

===>

Specify the entry type and name to be queried:

ENTRY TYPE  ===> PNLENU  Entry type to be queried.
                                To display a selection list of all valid entry
                                types, leave ENTRY TYPE and ENTRY NAME
                                blank

ENTRY NAME  ===> ISR@PRIM Entry name to be queried.

To return to the Query selection menu enter the END command

MBA                                0.7                                a 11,31
```

# USERMODs – Screen Capture 2

```
zPDT
File Edit Font Transfer Macro Options Window Help

====> [ ]          CSI CROSS-ZONE QUERY - ENTRY SELECTION          Row 1 to 7 of 7
                                                                SCROLL ==> PAGE

Entry Type:  PNLENU
Entry Name:  ISR@PRIM

To return to the previous panel, enter END .

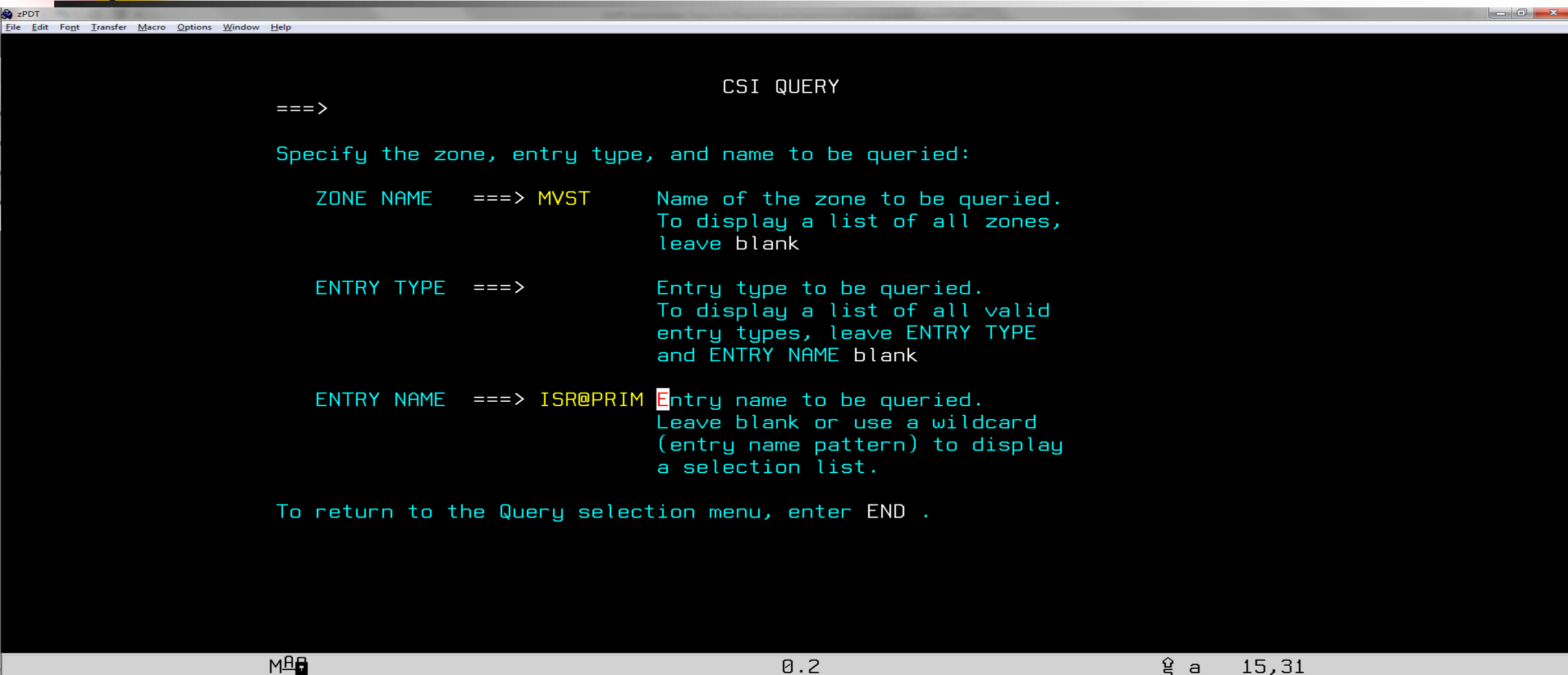
To select an entry from a zone, enter S next to the zone.

    * - Entry not found in zone.
    ** - Zone could not be allocated or is not initialized.

      ZONE      FMID      RMID      LASTUPD      UPDTYPE      DISTLIB      SYSLIB
      -----
      CSQ800D    *
      CSQ800T    *
      CSQ900D    *
      CSQ900T    *
      GLOBAL     *
      MVSD       HIF7P02    HIF7P02    HIF7P02          AISPPENU    SISPPENU
      MVST       HIF7P02    HIF7P02    HIF7P02          AISPPENU    SISPPENU
***** Bottom of data *****

MBA 4.8 a 2,7
```

# USERMODs – Screen Capture 3



The image shows a terminal window titled 'zPDT' with a menu titled 'CSI QUERY'. The menu lists three options: 'ZONE NAME', 'ENTRY TYPE', and 'ENTRY NAME', each followed by a prompt '===>' and a description. The 'ENTRY NAME' option is highlighted with a red cursor. The terminal window has a menu bar with 'File', 'Edit', 'Font', 'Transfer', 'Macro', 'Options', 'Window', and 'Help'. The status bar at the bottom shows 'MBA', '0.2', 'a', and '15,31'.

```
zPDT
File Edit Font Transfer Macro Options Window Help

CSI QUERY

===>

Specify the zone, entry type, and name to be queried:

ZONE NAME    ===> MVST      Name of the zone to be queried.
                                To display a list of all zones,
                                leave blank

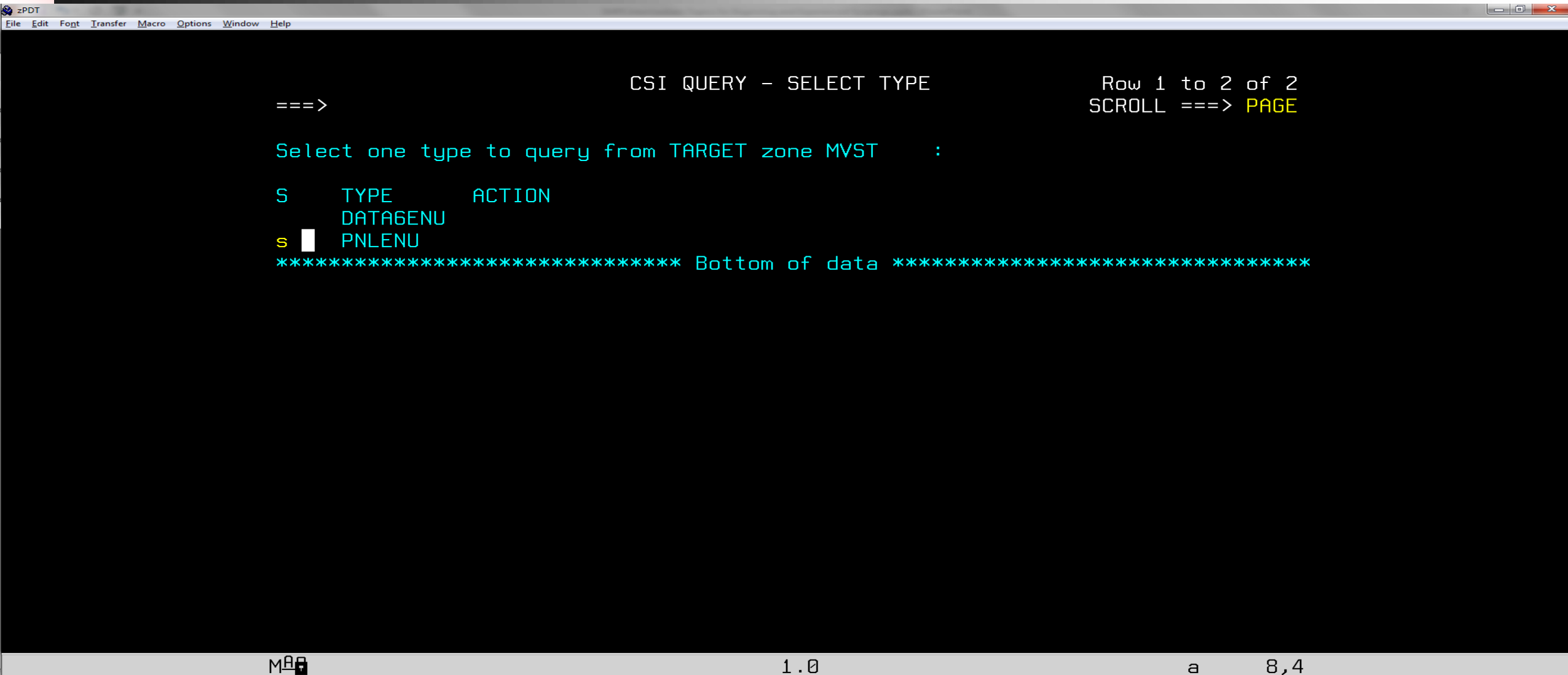
ENTRY TYPE    ===>          Entry type to be queried.
                                To display a list of all valid
                                entry types, leave ENTRY TYPE
                                and ENTRY NAME blank

ENTRY NAME    ===> ISR@PRIM Entry name to be queried.
                                Leave blank or use a wildcard
                                (entry name pattern) to display
                                a selection list.

To return to the Query selection menu, enter END .

MBA 0.2 a 15,31
```

# USERMODs – Screen Capture 4



```
zPDT
File Edit Font Transfer Macro Options Window Help

CSI QUERY - SELECT TYPE                                     Row 1 to 2 of 2
===>                                                         SCROLL ==> PAGE

Select one type to query from TARGET zone MVST      :

S      TYPE      ACTION
      DATAGENU
s      PNLENU
***** Bottom of data *****

MBA 1.0 a 8,4
```

# USERMODs – Screen Capture 5

```
zPDT
File Edit Font Transfer Macro Options Window Help

====> [ ] CSI QUERY - PNLENU ENTRY Row 1 to 1 of 1
SCROLL ==> PAGE

To return to previous panel, enter END .

Primary Command: FIND

Entry Type: PNLENU Zone Name: MVST
Entry Name: ISR@PRIM Zone Type: TARGET

LASTUPD: HIF7P02 TYPE=ADD

FMID HIF7P02
RMID HIF7P02
DISTLIB AISPPENU
SYSLIB SISPPENU
-----

***** Bottom of data *****

MBA 0.1 a 2,7
```





## USERMODs: Getting Started Step 2

---

- The second step is to create SMP/E MCS statements as in the following example:

```
//TOMPANEL DD DISP=SHR,DSN=TCONLEY.ISPF.PANELS  
//SMPPTFIN DD DATA,DLM=@@  
++USERMOD(UMISPFM) REWORK(20172150) .  
++VER (Z038) FMID(HIF7P02) .  
++PNLENU(ISR@PRIM) DISTLIB(AISPPENU) TXLIB(TOMPANEL) .
```



# USERMODs: REWORK and TXLIB

- REWORK is an 8-character level indicator for a USERMOD
  - By *convention*, the indicator is a 7-digit Julian date in `yyyyddd` format.
  - Power Users Tip: Use the 8<sup>th</sup> character for incremental versions created on same day!
  - This allows you to re-RECEIVE without REJECTing PTF from GLOBAL zone.
  - If REWORK is higher level, the USERMOD will be replaced upon RECEIVE.
- TXLIB is the DDDEF where panel source resides (your input file)
  - TCONLEY.ISPF.PANELS(ISR@PRIM) is a "new" ISPF Primary Option Menu.



# USERMODs: Inline Source

- Optionally, element source (such as the ISPF panel below) can be inline. . .

```
//SMPPTFIN DD DATA,DLM=@@
++USERMOD(UMISPFM) REWORK(20172150) .
++VER (Z038) FMID(HIF7P02) .
++PNLENU(ISR@PRIM) DISTLIB(AISPPENU) .
)PANEL KEYLIST(ISRSAB,ISR) IMAGE(&ZIMGNAM,&ZIMGROW,&ZIMGCOL)
)ATTR DEFAULT( ) FORMAT(MIX) /* ISR@PRIM - ENGLISH - 7.1 */
<snip>
FIELD(ZEXX) VAR(ZCMD) VAL(X)
)END
/* 5694-A01 COPYRIGHT IBM CORP 1982, 2009 */
/* ISPD TLC Release: 7.1. Level: PID */
/* z/OS 02.01.00. Created - Date: 19 Nov 2014, Time: 18:22 */
```

- Panel source ends with @@ SMPPTFIN DLM or ++ for next element.



# USERMODs: Best Practices

---

- Recommend UM<component><identifier> naming convention
  - UM - UserMod, component ISPF, identifier M for Menu - UMISPFM
  - Another method - <component><identifier> (e.g. ISPFMNU)
- Once created, a USERMOD will require changes if a MODID error occurs.



# USERMODs: Best Practices

---

- First step is to RESTORE USERMOD
  - If you don't like to ACCEPT maintenance, start liking it.
  - Failure to ACCEPT maintenance is the main inhibitor for upgrading USERMODs.
  
- Second step is to alter USERMOD MCS for new maintenance
  - Determine RMID for affected USERMOD element and apply RMID.
  - REJECT/RECEIVE updated USERMOD (with REWORK, only RECEIVE is required).
  - APPLY updated USERMOD (do not use REDO unless directed by IBM/ISV).



# USERMODs: Example

- Using ISR@PRIM example, new PTF UA12345 updates ISR@PRIM:

```
//SMPPTFIN DD DATA,DLM=@@
++USERMOD(UMISPFM) REWORK(20172550).      /* Was 20172150          */
++VER (Z038) FMID(HIF7P02) PRE(UA12345). /* Add PRE for new maint */
++PNLENU(ISR@PRIM) DISTLIB(AISPPENU).
)PANEL KEYLIST(ISRSAB,ISR) IMAGE(&ZIMGNAM,&ZIMGROW,&ZIMGCOL)
)ATTR DEFAULT( ) FORMAT(MIX)              /* ISR@PRIM - ENGLISH - 7.1 */
<snip>
FIELD(ZEXX) VAR(ZCMD) VAL(X)
)END
/* 5694-A01      COPYRIGHT IBM CORP 1982, 2009 */
/* ISPD TLC Release: 7.1.  Level: PID          */
/* z/OS 02.01.00.  Created - Date: 19 Nov 2014, Time: 18:22 */
```

- It really is that simple!



# USERMODs: Regression Error Messages

---

- Following messages indicate regression for USERMOD IGYWDOP:

```
GIM38201E ** THERE IS A MODID ERROR FOR MOD ENTRY IGYCDOPT IN SYSMOD UK95907.  
GIM31901I      SYSMOD UK95907 DOES NOT SPECIFY IGYWDOP ON THE PRE OR SUP OPERAND.  
              IGYWDOP IS THE RMID FOR MOD IGYCDOPT THAT IS CURRENTLY INSTALLED.  
GIM22601I      APPLY PROCESSING FAILED FOR SYSMOD UK95907.
```

- This USERMOD updates the COBOL compiler options.
- For more information on this USERMOD read [IBM Support Doc.](#)



# USERMODs - Complicated Example – Part 1

---

- Sometimes you will need to modify multiple elements.
- When that happens, elements will likely be at different levels.
- Must group elements at same RMID level to same USERMOD.
- Following pages show USERMODs for IWSz (formerly TWS, OPC/A).
- Note elements at same RMID level grouped into same USERMOD.





## USERMODs - Complicated Example – Part 2

---

- Multiple USERMODs embedded into single MCS source deck.
- This is a real-world example of local function added to IWS.
  - Modified IWS panels were simply "hacked" into ISPPLIB concatenation.
  - Applying IWS maintenance was a nightmare because of these panels.
  - I took manual updates and created these USERMODs to track changes.
  - Compare current and new panel source, merge changes, update USERMOD.



# USERMODs - Complicated Example

```
//TOMPANEL DD DISP=SHR,DSN=TCONLEY.EQQ.SEQQPENU
//SMPPTFIN DD DATA,DLM=@@
++USERMOD(#IWS001) REWORK(20143240) .
++VER (Z038) FMID(JWSZ5E4) .
++PNLENU(EQQABJBP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQABJB6) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQABOPL) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQAJCLE) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQAMGP2) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQAMJB7) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQAMJB8) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) SYSLIB(SEQQPENU) .
++PNLENU(EQQAUDIP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQFUADP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQMMJOP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQMMJO7) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQMMJO8) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) SYSLIB(SEQQPENU) .
++PNLENU(EQQOPCAP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQSOPD1) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQURONA) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) SYSLIB(SEQQPENU) .
++PNLENU(EQQUROQH) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) SYSLIB(SEQQPENU) .
++PNLENU(EQQUROQL) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) SYSLIB(SEQQPENU) .
++PNLENU(EQQXINIP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) SYSLIB(SEQQPENU) .
```



# USERMODs - Complicated Example

```
++USERMOD(#IWS002) REWORK(20143240) .
++VER (Z038) FMID(JWSZ5E4) PRE(UK57253) .
++PNLENU(EQQSOPDP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQSOPD6) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++USERMOD(#IWS003) REWORK(20143240) .
++VER (Z038) FMID(JWSZ5E4) PRE(UK59462) .
++PNLENU(EQQABOSL) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++USERMOD(#IWS004) REWORK(20143240) .
++VER (Z038) FMID(JWSZ5E4) PRE(UK61333) .
++PNLENU(EQQACGPP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQACOPP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQAMGPP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++USERMOD(#IWS005) REWORK(20143240) .
++VER (Z038) FMID(JWSZ5E4) PRE(UK69388) .
++PNLENU(EQQMOPRL) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++PNLENU(EQQMOPRR) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
++USERMOD(#IWS006) REWORK(20143240) .
++VER (Z038) FMID(JWSZ5E4) PRE(UK70775) .
++PNLENU(EQQAMJBP) DISTLIB(AEQQPENU) TXLIB(TOMPANEL) .
@@
```



# Backing Up Your SMP/E Environment – Part 1

---

- Raise your hand if you've heard this myth:
  - "Once I ACCEPT, I can't go back if there's a problem."  
"Therefore, I will NEVER ACCEPT maintenance."
- Failing to ACCEPT maintenance is a very poor I/S practice!
  - Difficult-to-impossible to RESTORE PE or USERMOD without a recent ACCEPT
  - A RESTORE may regress dozens/hundreds of PTFs without a recent ACCEPT.



## Backing Up Your SMP/E Environment – Part 2

---

- The key is to backup ALL SMP/E zones and support data sets, target, DLIB data sets, and OMVS filesystems.
  - Assumes a good naming convention for data sets!
- They can be DFDSS RESTOREd even AFTER an SMP/E ACCEPT operation.
- The following slide is a DFSMSdss job step to backup an entire SMP/E environment:



# Backing Up Your SMP/E Environment

```
//S1      EXEC PGM=ADRDSSU
//SYSPRINT DD SYSOUT=*
//TAPE1   DD DSN=IBMUSER.BACKUP.RESVL1(+1),EXPDT=99000,
//          DISP=(,CATLG,DELETE),UNIT=CART,VOL=(,,15),
//TAPE2   DD DSN=IBMUSER.BACKUP.RESVL2(+1),EXPDT=99000
//          DISP=(,CATLG,DELETE),UNIT=CART,VOL=(,,15),
//TAPE3   DD DSN=IBMUSER.BACKUP.DLIBV1(+1),EXPDT=99000
//          DISP=(,CATLG,DELETE),UNIT=CART,VOL=(,,15),
//TAPE4   DD DSN=IBMUSER.BACKUP.SMPVL1(+1),EXPDT=99000
//          DISP=(,CATLG,DELETE),UNIT=CART,VOL=(,,15),
//TAPE5   DD DSN=IBMUSER.BACKUP.OMVS21(+1),EXPDT=99000
//          DISP=(,CATLG,DELETE),UNIT=CART,VOL=(,,15),
//SYSIN DD *
  PARALLEL
  DUMP FULL INDYNAM(RESVL1) OUTDDNAME(TAPE1) OPT(4) -
    ALLEXCP ALldata(*) CONCURRENT
  DUMP FULL INDYNAM(RESVL2) OUTDDNAME(TAPE2) OPT(4) -
    ALLEXCP ALldata(*) CONCURRENT
  DUMP FULL INDYNAM(DLIBV1) OUTDDNAME(TAPE3) OPT(4) -
    ALLEXCP ALldata(*) CONCURRENT
  DUMP FULL INDYNAM(SMPVL1) OUTDDNAME(TAPE4) OPT(4) -
    ALLEXCP ALldata(*) CONCURRENT
  DUMP DATASET( -
    INCLUDE(OMVS.RESVL%.**)) -
    OUTDDNAME(TAPE5) OPT(4) -
    ALLEXCP ALldata(*) CONCURRENT
/*
```



# Finally...

---

*Please* complete a session evaluation.  
Your comments help deliver better presentations.

I'm interested in hearing about your experiences with SMP/E; if you encounter any issues and would like assistance, send an email to [pinncons@rochester.rr.com](mailto:pinncons@rochester.rr.com)